

# 2008 Assessment Guidance Public Comments and DEQ Responses



June 25, 2007

# EPA Comments on 2008 Virginia Water Quality Assessment Guidance Manual

## Background

### Water Quality Monitoring, Information and Restoration Act (WQMIRA)

1. Page 10, Please define the term “significant decline” in Part 1e. In response to EPA’s comments on the use of this term in the 2006 Virginia Water Quality Assessment Guidance Manual, VADEQ stated that the term was not defined by the Virginia legislature. Without the triennial review process being completed before the end of this comment period, there is no indication on what guidance VADEQ uses in determining “significant decline”.

## **Response**

*“Significant declines” correspond with the various Standards exceedence scenarios identified throughout the assessment guidance manual triggering aquatic life and human health impairments.*

## Assessment Methodology

2. Page 21, Fixed Rate (Percent) Method: In the EPA ***Guidance for 2008 Assessment, Listing, and Reporting Requirements Pursuant to Sections 303(d), 305(b), and 314 of the Clean Water Act*** (2008 Integrated Report Guidance), the use of the fixed percent method is discouraged unless specifically implied in state WQS. However, until EPA HQ provides specific guidance advising the states on an array of acceptable alternatives to this 10 percent rule as outlined in the 1997 305(b) Guidance, no action is anticipated in the near future by the EPA regional offices disputing these assessment findings.

## **Response**

*No response necessary.*

3. Page 22, Non DEQ Evaluation Methodology; EPA's reading of this discussion is that VADEQ is now comfortable enough with citizen monitoring data which meets the Guidance Memo No. 06-2010 Guidance for DEQ Review and Approval of Biological Monitoring QAPPs Level III requirements that this data can be used alone for making assessment determinations. Is that a correct interpretation?

## **Response**

*Yes.*

4. Page 24, Non DEQ Evaluation Methodology; Assessment Protocol 2.f. Level III benthic data showing impairment will be the determining factor even if VADEQ chemical data shows use support. Is that a correct interpretation?

## **Response**

*Yes.*

5. Page 25, Non DEQ Evaluation Methodology; Assessment Protocol 7. What type of follow-up does Richmond VADEQ have to keep track of regional VADEQ actions on forwarded list of stations classified as ‘Area of medium and high probability for adverse conditions?’ Follow-ups would seem appropriate especially in regard to the stations with a high probability for adverse conditions.

**Response**

*Virginia has created assessment result sub-categories (Category 3C & 3D) for those citizen data that indicate good water quality as well as those that indicate adverse water quality. After the assessment results have been finalized, the adverse results (sub-category 3C) are queried and reviewed for additional DEQ followup monitoring.*

6. Page 33, EPA welcomes VADEQ’s decision to use the Virginia Stream Condition Index (VSCI) which allows for a more robust and defensible determination of impairment based on benthic community conditions, thus eliminating many of the problems and uncertainties associated with past methods.

**Response**

*No response needed.*

7. Page 34, Estuarine Biological Assessment; The ‘bootstrap’ method being used for the 2008 assessment period has a minimal of 10 sample size per AU. For clarity purposes, this requirement should be included in the discussion. With six years of data is being used (a much longer time assessment period than for most Chesapeake Bay criteria), there needs to be some information presented on this in the discussion. The discussion regarding the discriminant analysis tool (benthic diagnostic tool) needs to be redone. Members of the task force never came to a formal consensus on assigning causes for benthic impairments to one of those four listed. It may be appropriate to include a more detailed discussion on how causes are assigned.

**Response**

*A reference to a sample size > 10 and the use of a six-year data window has been included in the guidance manual.*

8. Page 36, Recreational Use; Is it to be assumed that every AU previous listed as impaired due to Fecal Coliform would have been sampled and reassessed for the 2008 Integrated Listing cycle using the E. coli or enterococci criteria? If an AU was listed under Fecal Coliform criteria and that AU has not been reassessed under the new E. coli or enterococci criteria, that AU has to continue to be listed as impaired. If this is the case, then some detail to that effect should be included in the discussion.

**Response**

*Rule # 3 on page 15 addresses this issue. The assessment guidance manual has included additional clarification in Section 6.4.5.*

9. Page 53, Wetland Assessment Methodology; Has there been any progress in the development of the strategic plan for integrating existing and new programs into wetland

monitoring? In the 2004 Assessment Guidance Manual, it was stated that this process would be completed by July 2006. If the projected date for completion has changed, what is a new date for completion?

**Response**

*Wetland assessment guidance has been updated and modified to address this comment.*

**Comments on: Draft Water Quality Assessment Guidance Manual**

**From : Jay Gilliam Volunteer trainer and monitor –  
Virginia Save Our Streams Program**

I would like to strongly object to the change of policy that would allow the Virginia DEQ to use level three citizen data (**by itself, without agency corroboration**) to list a stream section as impaired and put it on the 303(d) list. I feel qualified to make this objection as a person who started the Va SOS program in 1996 and has been intimately involved with all the “progress” such as our validation and refinement study and quality assurance plan.

Although I am currently only a volunteer with Va SOS, I spent a great deal of effort between 1996 and 2004 earning the respect of program partners such as the state agencies and their personnel, business groups such as the Virginia Manufacturers Association, the Virginia Chamber of Commerce, the Va. Agribusiness Council, civic groups, colleges and universities, and most important, interested citizens. Every group or individual that I spoke to about citizen monitoring, I made the point that we did not aspire to replicate or duplicate the role of state agencies. We intend to help them in meaningful ways but not ever trigger a regulatory action.

There have been good times and less good times in our partnership with DEQ. The best and most effective times have been when we had a good communication with the water division of DEQ. I heard a rumor in early fall of 2006 that there was a possibility that DEQ intended to use level three citizen data to list stream sections as impaired. I made a trip to Richmond to discuss this alarming news. DEQ staff informed me that it would not list a stream without agency corroboration. I left satisfied. About a month ago I became aware that this policy was not accurate and that according to the new guidance the “Level III citizen/non-agency data may be used to assess for designated uses – 305(b) assessment; and in 303(d) listing and delisting of impairments.”

The Va SOS program has never trained citizen monitors for this purpose. We have specifically told the citizens in the course of their training that their efforts would be used in meaningful ways but not to trigger regulatory actions. The fact that this major change of policy could occur without discussion with Va SOS is a powerful disappointment.

I repeat strongly that citizen monitors should never duplicate the function or authority of DEQ. We can make the job easier but should never substitute our efforts for that of agency personnel. Listing a stream section as impaired has potentially major implications for localities, permit holders, and the Commonwealth.

In no way am I disparaging the quality of Va SOS data. That is not the point. Liability for citizen monitors is not the point. If citizens efforts are substituted for agency efforts then the powerfully harmonious relationships that were built over the last 10 years and maintained for the last decade will begin to unravel. DEQ is risking more than any other stakeholder if the legislature doesn't understand the implications of this shift of policy.

This is an ill considered change. I have been told that it is a result of "pressure" from EPA. I have also been told that it is a direct result of hb 1859 (Del. Wittman). I have no indication that this is the case and am going to discuss this in person in the near future with Del. Wittman. I have not been able to discover who I should talk to at EPA. Powerful negative repercussions will result if this major shift of policy is not reexamined and changed. An honest dialog with all citizen monitors should occur before this kind of policy change occurs.

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## **Response**

*The agency has stated our intention since 2003 (Citizen Monitoring Methods Manual), and more recently in the 2006 Citizen Monitoring Letter of Agreement, to use volunteer and other non-agency water quality data to assesses Virginia waters for the 305(b)/303(d) Water Quality Assessment and the listing and delisting of impaired waters.*

*Using volunteer and other non-agency water quality monitoring data does not replicate or duplicate the role of DEQ but rather enables us to augment our resources to monitor more of Virginia's waters. We are encouraged by state law (**WQMIRA §62.1-44.19:5**), federal regulation (**40CFR130.7(b)(5)**), (**40CFR130.7(b)(5)(iii)**), and (since 2004) EPA assessment guidance, to use any and all available water quality data to develop a more detailed report and identify bodies of water that show impairment.*

*If a volunteer/non-agency site shows water quality conditions and there is a nearby DEQ sampling station, the results are compared to ensure that the results reported to the agency are accurate. If there are no nearby DEQ monitoring sites, and the group meets all quality assurance guidelines to qualify for Level III, the data is sufficient to make an assessment determination.*

*A waterbody placed on the 303(d) List has no direct implications for localities or permit holders; however, the subsequent Total Maximum Daily Load (TMDL) may. If citizen or DEQ benthic monitoring data places a waterbody on the 303(d) list, the agency will establish monitoring station(s) to confirm the impairment prior to developing a TMDL. This is always true for benthic impairments because a benthic TMDL must be based on a specific chemical or physical cause which additional monitoring by DEQ identifies.*

*House Bill 1859 establishes a goal of DEQ receiving data for 3,000 stream miles monitored by volunteer groups by 2010 but does not require citizen volunteer data be used for the 305(b)/303(d) Integrated Water Quality Assessment Report. However, prior to this bill, DEQ*

*established an internal performance measure for the Citizen Monitoring Grant Program to assess 3,000 stream miles by 2010 using data primarily from samples collected by citizens and to report this measure in the 305(b)/303(d) Report.*

*In response to requests made by VASOS and other volunteer groups to have DEQ assess stream health by using volunteer benthic data, on August 28, 2006 DEQ released new guidance (**Guidance Memo # 06-2010**). VASOS staff reviewed and edited this document prior to its final release. This guidance allows the option for methods which differ from the Virginia Stream Condition Index (VSCI) to perform a validation study to determine if the data collected from using the two different methodologies can be correlated.*

*DEQ has very high confidence in volunteer data collected using the VASOS Modified Rocky Bottom Method. This was further reinforced in 2006, by two validation studies conducted on behalf of VASOS to compare the VASOS Modified Rocky Bottom Multimetric Method to VSCI in different areas of Virginia. The results of these studies showed very strong correlation between low SOS scores (less than 5) and VSCI scores which indicate impairment for benthics.*

*However, these validation studies provided insufficient data in high quality waters to determine which SOS scores consistently indicate water quality attainment. The gray zone mentioned in the 2008 assessment guidance (6-9 for 3C and 10-12 for 3D) is due to our expectation that such a study in high quality waters would correlate SOS between 10-12 with VSCI scores where the benthic community is excellent and a gray zone of 6-9 where no assessment determination can be made. We hope to conduct this study in 2008. Changes will be made to the assessment guidance for 2010 based on the study results.*

*At the request of VASOS staff, DEQ agrees not to use the VASOS dataset for sites that contain any scores of 5 or below (i.e. impaired) in the 2008 305(b)/303(d) Water Quality Assessment, with the exception of data generated from individual member organizations that authorize DEQ to do so. In order to determine how each volunteer monitoring group would like the data they generate used, DEQ circulated a Data Use Authorization Form in June 2007. Responses to this form will ensure that DEQ does not unintentionally use data from any group for a purpose to which they have not agreed to.*

**On another matter:** The lead DEQ employee for the new probabilistic monitoring scheme has gone to a lot of trouble to enlightening me about the scientific basis of the program. He has convinced me that the basis for this program is scientifically valid.

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**I just want to be sure that whenever DEQ makes a pronouncement to the public through the media or any venue that “X number of streams in the state are impaired” they qualify this statement as “according to a scientific model DEQ assumes that X # of stream miles are impaired”. Bad information has been disseminated for years about the overall condition of Virginia’s streams. Do not allow the same kind of inaccurate impressions to be perpetuated using this new tool.**

#### **Response**

*The freshwater and estuarine probability monitoring programs allow DEQ to estimate the conditions of water quality parameter(s) over the entire state or bioregion with known statistical*

*confidence. These statistical extrapolations are from actual water quality field collections and not from a model. DEQ strongly agrees that it is best to qualify the data results generated from the probability based monitoring and to explain why water quality data collected using a probability approach may produce different answers than targeted water quality monitoring collections. DEQ will explain the data results from our probabilistic surveys in the 2008 assessment report.*

## **Virginia Save Our Streams Comments on 2008 Water Quality Assessment Guidance Manual**

### **From Section 6.3.1 on page 23**

#### **Assessment Process**

1. All citizen and nonagency water quality data should be sent to the WQDL at DEQ. The WQDL and QA/QC staff in the Water Quality Monitoring and Assessment (WQMA) program will review all standard operating procedures (SOPs), QA/QC plans or Quality Assurance Project Plans (QAPPs), QA/QC plans, training manuals, and current monitoring procedures for each citizen/nonagency monitoring group submitting chemical data. The WQDL and the biological program coordinator will review all supporting documentation for biological freshwater benthic macroinvertebrate citizen/nonagency monitoring programs. The designation of DEQ Tiered Uses of data will be determined based upon the review of all procedures and in conjunction with the organization submitting the data. The organization submitting the data will be informed of their potential tier designation and the uses of that data as outlined in all agency documentation (WQDL guidance and Water Quality Assessment Guidance). Notwithstanding any agreement between DEQ and the organization submitting the water quality data, based upon the information provided to the organization submitting water quality data, the organization may withdraw their data from consideration of use as outlined by DEQ. Any changes in QA/QC and/or SOP methods and/or any additions or deletions of current monitoring sites should be brought to the attention of the WQDL.

#### **Assessment Process**

##### **2.b.**

~~The Virginia Save Our Streams (VASOS) Modified Rocky Bottom Protocol completed necessary validation requirements. Data provided by VASOS using this protocol shall be assessed based on the following conditions:~~

~~1. VASOS sites shall be listed as impaired for aquatic life use if at least two observations sampled in different seasons during the two most recent years had a VASOS score of 0-5.~~

~~2. VASOS sites, not already assessed using the requirements outlined above, shall be listed as an area of high probability for adverse conditions (Category 3C) if the majority of observations had a VASOS score of 6-9.~~

~~3. VASOS sites, not already assessed using the requirements outlined above, shall be listed as an area of low probability for adverse conditions (Category 3D) if the majority of observations had a VASOS score of 10-12.~~

#### ***Explanation for deletion:***

Virginia Save Our Streams requests this be eliminated from the guidance for several reasons.

VA SOS has not had the time to properly inform volunteers who have been collecting water quality data over a period time of this change of use of their data. VA SOS volunteers have been collecting data for years with the understanding that their data will supplement agency data, not replace the role of the agency. We plan to review the costs and benefits of having VA SOS data used to list streams as impaired and solicit feedback from our volunteer monitors.

Since the completion of the two most recent validation studies, Virginia Save Our Streams has not had the opportunity to update our quality assurance plan to include a description of a “gray zone” which we plan to adopt (one much smaller than DEQ recommends). It is also important to note, that both validation studies focused on the comparison of the VA SOS method (collection and scoring) with the Virginia SCI method and scoring. The accuracy and precision of volunteer monitors to correctly identify benthic macroinvertebrates was not a part of the study (and can not be considered as a part as the professional staff of Virginia Save Our Streams did the collection and field identification for both validation studies). Further, the quality assurance plan that Virginia Save Our Streams is currently operating under specifies the following:

It (Virginia Save Our Streams data) will be used to identify waters where agency scientists will conduct follow-up monitoring to identify if the water should be classified as impaired on the 303(d) report.

If Virginia Save Our Streams data is to be used as Level III, we would envision the need to provide more stringent guidelines for volunteers to become certified volunteer water quality monitors. This is a decision that needs to be made with VA SOS staff and Board members, as this would change both the mission of our organization and the resources that would be required in order to implement such a change.

We are also not sure that this guidance memorandum for the Assessment of Waters for 305(b) and 303(d) listings is the best place to outline the uses of non-agency data. For communications sake, it may be better to have the levels of data use as designated by the WQDL and the specifics of how non-agency data is used be outlined in a memorandum to the non-agency data source, be documented by signed agreement from both parties, and be referenced by this Assessment Guidance as the rule for using that particular data set.

Finally, we simply request that more time be allotted before using Virginia Save Our Streams data for 303(d) listings so that we can at least dialogue with our volunteer monitors to discuss this change in use and update our quality assurance plan to reflect the changes suggested in the validation study and to further outline any changes that need to be made in the certification process.

## **Response**

*At the request of VASOS staff, DEQ agrees not to use the VASOS dataset for sites that contain any scores of 5 or below (i.e. impaired) in the 2008 305(b)/303(d) Water Quality Assessment, with the exception of data generated from individual member organizations that authorize DEQ to do so. To this effect, the assessment guidance has been updated and volunteer monitoring groups (including SOS members) are asked to fill out and return a form to authorize DEQ to use their monitoring data in 303(d) listing and assessment.*



## **HRSD Comments on Water Quality Assessment Guidance Manual for Y2008**

The Hampton Roads Sanitation District appreciates the opportunity to comment on the above referenced document. HRSD has provided numerous comments on the draft guidance documents produced over the years. While some of those issues have been addressed, there are several that continue to be problematic for the VPDES regulated community. DEQ's previous responses to these comments have not fully addressed our concerns. Therefore, many of the previous comments are included with some new comments below.

DEQ did not provide adequate information for stakeholders to provide technical comment on the assessment of the Bay criteria, as the "Ambient Water Quality Criteria for Dissolved Oxygen, Water Clarity and Chlorophyll a for the Chesapeake Bay and Its Tidal Tributaries 2006 Addendum" was unavailable for review. The highlights of this document were summarized in the guidance but the details of the assessment process are only found in the original document which is not available on the VDEQ, Chesapeake Bay Program, or EPA websites. In order for stakeholders to provide thorough and meaningful comment, ample time and access to the materials must be provided. DEQ must provide access to this document and allow time for review before it is used in the assessment process.

### **Response**

*The referenced addendum has circulated through several Chesapeake Bay Program technical oversight and steering committees. DEQ is in the process of adopting the updated addendum via the triennial review process. DEQ anticipates this process will be completed prior to the 2008 305(b)/303(d) Integrated Report.*

There are several benchmarks used as assessment criteria, which have not been promulgated or subjected to the APA process, including but not limited to sediment thresholds, tissue screening values, B-IBI values, and the Virginia Save Our Streams benthic monitoring values. DEQ has previously responded that since the assessment is not a regulatory action that these benchmarks were not required to undergo the APA process. HRSD disagrees with this response. While the assessment itself may not impose regulatory limits, the resulting TMDL may. Therefore, it is critical that stakeholders and the public have adequate opportunity to provide input into the development of these benchmarks. If the public and stakeholders are involved from the beginning then any TMDLs that result from findings of impairment based on these benchmarks will likely have greater support as a result. As HRSD has stated previously, these values should be used to prompt further research but should not be used as a basis for determining impairment.

### **Response**

*Impairment listings trigger additional research and study to determine the specific causes, sources and extent of the problem(s). In some instances, the additional data is used to classify impairments as being natural or in other cases, the additional data can be used to delist the water.*

Not all of the methods used to gather data for the assessment have been promulgated or subjected to the APA process, including but not limited to citizen collected data such as the Virginia Save Our Streams benthic monitoring. This will be the first assessment cycle in which citizen

collected data has the potential to be used to list waters as impaired as opposed to “having an observed effect”. As stated previously, though the listings themselves do not have regulatory impact, the resulting TMDLs may. The regulated community must have the opportunity to provide input on these methodologies.

### **Response**

*DEQ has a formal process to review and approve all assessment methodologies used to assess water quality. The process used to determine the validity and quality of data used in the assessment is described in the assessment guidance document which is subject to public review and comment.*

The VPDES permit program requires that only 40CFR Part 136 analytical procedures be used to analyze samples when such a method is available. The assessment program does not have a similar requirement. Both the ambient monitoring program and the VPDES program determine the potential for impact in state waters. Requiring the use of these promulgated methods ensures reliability of the data and comparability of the results within and between labs. Though all data used for supporting and listing purposes is collected using an EPA accepted and DEQ approved method, this does not address the concern that the use of varying methodologies between the two programs could result in conflict and undermine the credibility of the listings and subsequent TMDLs.

### **Response**

*DEQ has no indication the methodologies used to identify impaired waters, as identified in the assessment guidance manual, has caused any conflict or credibility issues associated with listing and TMDL development.*

DEQ regional staff are responsible for making the initial decision as to whether impairments in their respective waters are attributable to point or non-point sources. Further guidance is requested on how this initial decision is made as this does have an impact on public perception. This initial assignment of potential sources should be as accurate as possible and documented.

### **Response**

*In many cases, multiple causes and sources are potentially responsible for water quality impairments. Consultations with regional monitoring and assessment staff are used to best determine a source or sources of impairment. The source of impairment is based on professional judgments of these local staff and are believed to be as accurate as possible. When there are varying professional judgments or the source(s) cannot be determined, it is listed as unknown and further studies are conducted to pinpoint the problem.*

It appears as though exceedences of tissue screening values do not result in a listing of impairment but rather a listed of “fully supporting but having an observed effect”. Please clarify this point. If this is an accurate statement, HRSD is in agreement. Tissue screening values are not subject to public comment and must not be used in making impairment decisions. Additionally, if any variable used in the calculation of a fish tissue value is ever changed without the benefit of public comment, then the resulting value must be used as a tissue screening value, not a tissue value. Since exceedences of tissue values result in listings of impairment and may have subsequent regulatory action, it is imperative that the regulated community has the opportunity to review and comment on these changes.

**Response**

*There are fish tissue screening values that are calculated from Water Quality Standards human health criteria based on ingestion rates and other risk-based assumptions.. Unfortunately, there are other pollutants that do not have adopted Water Quality Standards criteria but are considered human health threats. These pollutants are used as “screening values” used to identify other potential human health threats.*

There are numerous inconsistencies with the bacterial criteria. Please review these passages to express the correct information. In one area, it states that 4 data points are required for a geometric mean and in other areas it states that 2 data points are required. Also, in one area the guidance indicates that any exceedence of a geometric mean will result in an impairment listing while other areas indicate that the geometric mean will also be subject to the 10.5% or “2-hit” rule.

**Response**

*The inconsistencies have been corrected. Unfortunately, this assessment is happening at the same time as the triennial review of Standards. The bacteria Standard is part of this triennial review and changes relative to the geometric mean assessment. It was originally anticipated that these changes would be used in the 2008 assessment. However, after further considerations, the agency decided to revert to the current assessment methodology.*

The use of the SPMD to calculate accurate water column concentrations is still questionable despite DEQ’s assertion that there was a strong correlation with PCB concentrations found in samples collected by the SPMDs and with a statewide distribution of PCB fish tissue impairments. HRSD agrees that this method is useful for identifying waters needing further study but does not agree with using these calculated concentrations to determine if the waterbody exceeds a WQS. As DEQ is no doubt aware, calculating the water flow over the 30-day period is not without difficulty and is site-specific. These sampling devices must also be calibrated to determine the compound specific sampling rates. This introduces enough uncertainty in backcalculating the water column concentration based on SPMD data to disallow the use of this method in identifying a waterbody as impaired. Waters that have concentrations either exceeding the WQS or even near the WQS based on SPMD data should be targeted for follow-up study for a more accurate characterization.

**Response**

*DEQ is primarily using SPMD data to try and identify sources of contamination. In order to be used for impairment listings, an exceedence would need to be documented from a site more than once in a 3-year period. DEQ believes this provides enough evidence to proceed with listing the water as impaired with additional study to follow via the TMDL process.*

The guidance states that waters are listed as impaired and require a TMDL when one or more pollutants exceed water quality standards. The guidance goes on to define the term “pollutant” according to federal regulations. Measures such as toxicity tests and biological assessments clearly are not included in this definition. DEQ continues to use these measures to list waters as impaired. These tests and assessments measure pollution as opposed to pollutants. Wasteloads cannot be calculated for these measures and so proper TMDL calculation is not possible. Without identification of the stressor pollutant, it is not possible to develop a TMDL.

**Response**

*In the case of toxicity tests and biological assessments, the narrative Standard is exceeded and thus impairment is recognized. Further tests are used to determine if a pollutant is involved. If a pollutant is found to be the cause of impairment, a TMDL is conducted and these pollutant loadings are then calculated and quantified for reduction.*

EPA has recently provided states with listing guidance for waters impaired by mercury largely due to atmospheric deposition. The guidance recommends deferral of TMDL development in recognition of a state's efforts to reduce mercury contamination via other land-based initiatives and suggests using "5M" as a designation for these waters. This category indicates that TMDL development may be delayed to allow other reduction efforts to have an effect. DEQ has included a 5M category for the 2008 assessment but has provided no guidance as to its implementation. HRSD understands that the DEQ Air Division is working to determine the possible extent of atmospheric mercury deposition reductions. The models and methods employed for this determination must be open to public comment as it will impact the listing process and any resulting TMDLs and, therefore, will have regulatory implications.

**Response**

*EPA has just released guidance regarding the use of Category 5M for atmospheric mercury deposition. DEQ has not had the time or resources to conduct the studies needed to confirm the atmospheric contribution of mercury. It is anticipated that the DEQ air and water programs will develop a sampling protocol to conduct the studies necessary to confirm the atmospheric contribution of mercury to state waters in future assessments.*

The guidance still does not address minimum data set sizes. This is critical to address uncertainty associated with impairment listings based on very little data. At a minimum, magnitude of the exceedence and other information such as seasonal bias should be considered. If appropriate based on this information and best professional judgment, the waters should be listed in the 3C category (insufficient with observed effects). In the "Response to Comments" for the 2006 Guidance, DEQ indicated that the 2-hit rule and best professional judgment are utilized in listing waters as impaired. Two hits of marginal exceedences do not indicate actual impairment. If the magnitude of exceedences and other information such as seasonal biases are considered as part of the "best professional judgment" DEQ indicated in the "Response to Comments", then this should be indicated in the guidance.

**Response**

*DEQ is required to consider all data for assessment of water quality. In many cases, this involves limited data sets. The 2-hit rule for small data sets indicates there is potential for recurrence and not an exceedence from faulty monitoring equipment or sampling analysis techniques. Additional TMDL studies on impairments with small data sets have confirmed that this methodology can accurately predict impairment in the majority of cases.*

The guidance does not include a discussion on trend analysis for this cycle. After rereviewing the 2006 Assessment Guidance, it appears as though trend analysis will not be performed again until the 2012 assessment cycle. If this is the case, please clarify this in the current document so that readers will understand why the trend analysis is not presented without having to refer back to the 2006 Guidance. If trend analysis is intended this cycle, DEQ must provide the appropriate

guidance for this analysis.

**Response**

*DEQ will conduct a trend analysis again after the completion of the next statewide watershed rotation of the 2-year ambient monitoring. As identified in the monitoring strategy the agency has developed, the rotating watershed approach is conducted using 2-year rotations over 3 geographic zones. This equates to a 6-year statewide coverage. Thus, trend analysis will not be conducted again until the 2012 assessment following the next completed 6-year statewide cycle. A statement to this fact has been added in Part I of the assessment guidance manual which describes the assessment process.*

HRSD would be pleased to meet with the DEQ to further discuss the issues and determine ways in which we can work together to resolve these issues and improve the upcoming assessments.